

What is claimed is:

1. A system for distributing information, represented by a modulated signal received from a cable medium, to a headend of a hybrid fiber coax (HFC) cable arrangement, the system comprising:

a device for demodulating the modulated signal to generate a baseband signal containing the information; and

an optical transmitter for generating an optical signal representing the baseband signal, the optical signal traversing an optical fiber extending to the headend.

2. The system of claim 1 wherein the baseband signal is a digital signal.

3. The system of claim 2 wherein the optical transmitter includes a digital laser.

4. The system of claim 1 wherein the modulated signal includes a plurality of analog signals, the analog signals populating a plurality of channels in the cable medium, respectively.

5. The system of claim 4 further comprising one or more devices for tuning to the plurality of channels, respectively, to process the analog signals in the respective channels.

6. A system for processing information represented by an optical signal in a headend of an HFC cable arrangement to provide a service, the system comprising:

a optical receiver for converting the optical signal to a composite baseband signal representing a plurality of information streams;

a demultiplexing device responsive to the composite baseband signal for generating the plurality of information streams; and

a subsystem for processing at least one of the information streams to realize the service.

5        7. The system of claim 6 wherein the service includes an interactive service.

8. The system of claim 6 wherein the at least one information stream includes data bits.

10        9. The system of claim 6 further comprising an apparatus for providing cable television, which is different from the service.

15        10. The system of claim 9 wherein a signal representing the cable television travels in a direction different from that of the optical signal in the HFC cable arrangement.

20        11. The system of claim 6 wherein the subsystem includes a device for modulating a designated carrier with the at least one information stream to form a modulated signal.

25        12. The system of claim 6 wherein the subsystem includes a cable modem termination system (CMTS).

30        13. The system of claim 12 wherein the CMTS includes a digital input interface.

14. The system of claim 6 wherein the composite baseband signal is encoded in accordance with an error correction coding technique.

35        15. A system for transporting information from a plurality of terminals through a optical fiber medium, the terminals generating analog modulated signals

which populate a plurality of channels in a cable medium, each analog modulated signal representing information from a respective one of the terminals, the system comprising:

one or more devices for converting one or more of the analog modulated signals to digital baseband signals, respectively, the digital baseband signals containing information from the respective terminals;

a multiplexer for combining the digital baseband signals to form a combined signal; and

an optical transmitter for transmitting an optical signal representing the combined signal through the optical fiber medium.

16. The system of claim 15 wherein at least one of the terminals includes a set top terminal.

17. The system of claim 15 wherein at least one of the terminals includes a computer.

18. The system of claim 15 wherein the optical transmitter includes a digital laser.

19. The system of claim 15 comprising an HFC cable arrangement for providing an interactive service.

20. The system of claim 19 wherein the HFC cable arrangement also provides cable television.

21. The system of claim 15 further comprising an optical multiplexer for multiplexing the optical signal with a second optical signal representing those analog modulated signals which have not been converted to digital baseband signals.

22. A method for distributing information, represented by a modulated signal received from a cable medium, to a headend of a hybrid fiber coax (HFC) cable arrangement, the method comprising:

demodulating the modulated signal to generate a baseband signal

5 containing the information; and

generating an optical signal representing the baseband signal, the optical signal traversing an optical fiber extending to the headend.

23. The method of claim 22 wherein the baseband signal is a digital signal.

24. The method of claim 22 wherein the modulated signal includes a plurality of analog signals, the analog signals populating a plurality of channels in the cable medium, respectively.

25. The method of claim 24 further comprising tuning to the plurality of channels, respectively, to process the analog signals in the respective channels.

26. A method for processing information represented by an optical signal in a headend of an HFC cable arrangement to provide a service, the method comprising:

converting the optical signal to a composite baseband signal representing a plurality of information streams;

in response to the composite baseband signal, generating the plurality of information streams; and

processing at least one of the information streams to realize the service.

27. The method of claim 26 wherein the service includes an interactive service.

28. The method of claim 26 wherein the at least one information stream includes data bits.

29. The method of claim 26 wherein in processing the at least one information stream, a designated carrier is modulated with the at least one information stream to form a modulated signal.

5           30. The method of claim 26 wherein the composite baseband signal is encoded in accordance with an error correction coding technique.

10           31. A method for transporting information from a plurality of terminals through a optical fiber medium, the terminals generating analog modulated signals which populate a plurality of channels in a cable medium, each analog modulated signal representing information from a respective one of the terminals, the method comprising:

15                 converting one or more of the analog modulated signals to digital baseband signals, respectively, the digital baseband signals containing information from the respective terminals;

                  combining the digital baseband signals to form a combined signal; and

                  transmitting an optical signal representing the combined signal through the optical fiber medium.

20           32. The method of claim 31 further comprising multiplexing the optical signal with a second optical signal representing those analog modulated signals which have not been converted to digital baseband signals.